Frequency modulation system

*198. SHRI KALPNATH RAI: Will the Minister of INFORMATION AND BROADCASTING be pleased to state:

(a) what is frequency modulation system in respect of broadcast transmissions;

(b) the names of All India Radio Stations which have frequency modulation transmission facilities and what are their wavelengths;

(c) what are the advantages, of frequency modulation transmission over transmission on short-wave and medium wave;

(d) whether any special programmes are broadcast over frequency modulation transmission; and

(e) if so, the details thereof?

THE MINISTER OF PARLIAMENTARY AFFAIRS AND THE MINISTER OF INFORMATION AND BROADCASTING (SHRI H. K. L. BHAGAT): (a) to (e) In the frequecy modulation systems, the audio signals corresponding to speech or music are mixed with radio frequency carrier signal in such a way that the frequency of the carrier varies in accordance with the instantaneous amplitudes of the speech signal. The amplitude of the carrier wave remains unaltered during the process. Usually this mixing of the speech with carrier is done at the exciter stage of the FM transmitter and the resultant signal is amplified in terms of voltage and power before it is fed to the antenna which radiates this energy in the form of electro-magnetic wave. The electro-magnetic waves so generated are intercepted by the receiving antenna of the FM receiver which retries the orginal information (speech, music, etc.) by the process of demodulation.

Presently, frequency modulation transmission facilities are available from radio stations located at Bombay, Madras, Calcutta and Delhi. All the 4 transmitters are operating on 107.1 Mhz. corresponding to a wave-length of 2.8 metres.

There are several inherent advantages of FM transmission over transmission on SW and MW. Some of the salient features are;

(i) Large band width on transmission channel which gives it a high fidelity characteristic. Because of the large band width, stereo transmissions are possible on FM.

(ii) Interference free service and uniformity of coverage both during day and night time.

(iii) The same frequency of operation can be used for stations located 80 to 100 Km. apart.

(iv) It has better singal to noise ratio.

A beginning has been made to broadcast music programmes on FM from Delhi, Bombay, Calcutta and Madras. A beginning has also been made to broadcast stereo music from Delhi on FM for a duration of 1-1|2 hours from 9.30 PM to 11.00 PM each day.

अमेरिका से गेहूं का आयात

*199. **श्री रशीद मसूद :**

श्री सुब्रहमण्यन स्वामी :

क्या **खाद्य और नागरिक पूर्ति** मंत्री यह बताने की कृपा करेंगे कि :

(क) क्या यह सच है कि हाल ही में भारत ने अमेरिका से 1.2 मिलियन टन गेहूं का आयात किया है ;

(ख) यदि हां, तो इस खाद्यान्न के लिए भारत को अमेरिका को कितनी धन राशि देनी होगी और इसके भुगतान की शर्त क्या है; और

(ग) इस खाद्यान्न का आयात किए जाने के क्या कारण हैं ?

खाद्य और नागरिक पूर्ति मंत्रालय में राज्य मंत्री (श्री सुख राम) : (क) और (ग) बफर स्टाक को भरपाई करने की दृष्टि से संयुक्त राज्य अमेरिका से 10 लाख मीटरी टन गेहूं का आयात किया जाएगा ।